

**BATTERY WITH LAMINATED FILM COVERING AND FABRICATION
METHOD**

Examiner: Z. Best S.N. 10/566,713 Art Unit: 1795

DETAILED ACTION

1. Applicant's amendment filed June 30, 2009 was received. Claims 1-3 and 5-6 were amended. Claims 12-19 were newly added. Claims 1-7 and 12-19 are currently pending examination.
2. The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.

Election/Restrictions

3. Newly submitted Claims 17-19 are directed to an invention that is independent or distinct from the invention originally claimed for the following reasons:

Claims 1-7, 12-15 and Claim 17 are directed to related inventions. The related inventions are distinct if: (1) the inventions as claimed are either not capable of use together or can have a materially different design, mode of operation, function, or effect; (2) the inventions do not overlap in scope, i.e., are mutually exclusive; and (3) the inventions as claimed are not obvious variants. See MPEP § 806.05(j). In the instant case, the inventions as claimed have a materially different design because the invention of Claims 1-7, 12-15 requires a cross-linked structure and the invention of Claim 17 requires a material in the

second area having a lower creep rate and creep strength relative to a material forming the first area. Furthermore, the inventions as claimed do not encompass overlapping subject matter and there is nothing of record to show them to be obvious variants.

Claims 1-7, 12-15 and Claim 18-19 are related as process of making and product made. The inventions are distinct if either or both of the following can be shown: (1) that the process as claimed can be used to make another and materially different product or (2) that the product as claimed can be made by another and materially different process (MPEP § 806.05(f)). In the instant case the cross-linked structures may be formed by a process other than electron beam radiation.

Since applicant has received an action on the merits for the originally presented invention, this invention has been constructively elected by original presentation for prosecution on the merits. Accordingly, Claims 17-19 are withdrawn from consideration as being directed to a non-elected invention. See 37 CFR 1.142(b) and MPEP § 821.03.

Specification

4. The objection to the specification is withdrawn because the title was amended.

Claim Objections

5. The objection to Claim 1 is withdrawn because Claim 1 was amended.
6. Claim 6 is objected to because the word "least" is misspelled.

Claim Rejections - 35 USC § 112

7. The following is a quotation of the first paragraph of 35 U.S.C. 112:

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

8. Claim 3 is rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the written description requirement. The claim(s) contains subject matter which was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventor(s), at the time the application was filed, had possession of the claimed invention. The instant specification does not teach a battery element partially enclosed between the pair of laminate films wherein the battery element includes a positive electrode and a negative electrode that confronts the positive electrode and wherein the battery element definition does not include the lead terminals.

Claim Rejections - 35 USC § 102

9. Claims 1-7, 12-13, and 15-16 are rejected under 35 U.S.C. 102(b) as being anticipated by Bannai et al. (US 6,503,656 B1).

Regarding Claim 1, Bannai et al. teach a film-covered battery (abstract) comprising a pair of laminate films (2, col. 4, lines 23-32) each of which includes at least a heat-seal resin layer and a metal foil layer (col. 2, lines 52-57), a battery element partially enclosed between the pair of laminate films (3a), the laminate films each including a first area at an outer

periphery of the laminate film and where the laminate film extends beyond the battery element, the first areas being heat-sealable to one another (fig. 4, col. 2, lines 36-57), the laminate films each including a second area (5) inside the first area (4) and in which the laminate film contacts the battery element (3a, fig. 4), wherein the heat-sealed resin layer includes a cross-linked structure in at least the second area (col. 3, lines 1-3).

Regarding Claim 2, Bannai et al. teach the first area (4) is formed in an area that includes an outer periphery of the second area (5) in which said cross-linked structure is formed (fig. 4).

Regarding Claim 3, Bannai et al. teach the film-covered battery comprises a positive electrode and a negative electrode (1), lead terminals (3a, 3b) that extend outside said laminate films are connected to each of said electrodes (fig. 4), said electrodes and portions of the lead terminals are sealed inside the pair of laminate films (fig. 4).

Regarding Claims 4-6, Bannai et al. teach the film-covered battery as recited above. It is noted that Claim 4-6 are product-by-process claims. Even though product-by-process claims are limited by and defined by the process, determination of patentability is based on the product itself. In *re Thorpe*, 777 F.2d 695, 698, 227 USPQ 964, 966 (Fed.Cir. 1985). The battery taught by Bannai et al. anticipates that of Applicant's, and therefore, Applicant's process is not given patentable weight in this claim.

Regarding Claim 7, Bannai et al. teach said battery element is a chemical battery element (col. 4, lines 33-47).

Regarding Claim 12, Bannai et al. teach the cross-linked structure is not formed in the first areas (4).

Regarding Claim 13, Bannai et al. teach the second area (5) is substantially an entire area surrounded by the first area (4) of each of the films (fig. 4).

Regarding Claim 15, Bannai et al. teach the second area is made of a resin having repeating units of $-(CH_2-CHX)-$ (col. 5, lines 24-35).

Regarding Claim 16, Bannai et al. teach the heat-sealed resin layer includes a cross-linked structure in at least the second area (col. 3, lines 1-15).

10. Claims 1 and 14 are rejected under 35 U.S.C. 102(b) as being anticipated by Yoshida et al. (WO 01/56097). Future references to Yoshida et al. will be based on corresponding US 6,660,430 B1.

Regarding Claim 1, Yoshida et al. teach a film-covered battery (8) comprising a pair of laminate films each of which includes at least a resin layer and a metal foil layer (col. 2, lines 59-61), wherein the resin layer is capable of being heat sealed (col. 3, lines 4-15), a battery element partially enclosed between the pair of laminate films (6, fig. 2), the laminate films each including a first area at an outer periphery of the laminate film and where the laminate film extends beyond the battery element, the first areas being heat-sealable to one another (4), the laminate films each including a second area inside the first areas and in which the laminate film contacts the battery element (figs. 1-2), wherein the heat-sealed resin layer includes a cross-linked structure in at least the second area (col. 3, line 10).

Regarding Claim 14, Yoshida et al. teach the second area of each of the laminate films is formed substantially only in an area where said laminate film contacts the battery element that is sealed inside said laminate film (figs. 1-2).

Response to Arguments

11. Applicant's arguments filed June 30, 2009 have been fully considered but they are not persuasive.

Applicant argues:

(a) *Bannai et al. discloses irradiating the heat sealed area to create a cross-linked structure, and Claim 1 recites that the cross-linked structure is formed in at least a second area inside the first heat-sealable area.*

In response to Applicant's arguments:

(a) Applicant's claim limitations regarding a first and second area and battery element, are too broad to disclude the teachings of Bannai et al. The claim limitations as rejected above do not preclude a heat sealed area from also being cross-linked. There must only be a first area, which Bannai et al. teaches, and a second area formed, which has been cross-linked. The second area may also be heat-sealed, and the first area may also be cross-linked.

Conclusion

Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Zachary Best whose telephone number is (571) 270-3963. The examiner can normally be reached on Monday to Thursday, 7:30 - 5:00 (EST).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Dah-Wei Yuan can be reached on (571) 272-1295. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

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